An Observational Assessment of Parent-Teacher Relationships in Infant-Toddler Classrooms to Examine Predictors of Cocaring Quality

Research Thesis

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By

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Abstract

Cocaring encompasses how parents and teachers work together in their caregiving roles to coordinate childrearing. Two critical components of cocaring that have demonstrated importance for child and parent well-being are support and undermining. Although cocaring has been studied via qualitative interviews and through questionnaires, my study sought to develop a more objective way to measure the quality of cocaring relationships by recording and coding parent-teacher interactions. This study also explored participants' depression, anxiety and personality in an effort to identify risk factors for developing cocaring relationships with less support and greater undermining. Eighteen mother-teacher dyads, of a 6-to-36-month-old child, from 6 full-time, licensed childcare centers participated in this study and were video recorded two to four times. Additionally, participants completed several psychological questionnaires. 58 videos were collected and coded for 8 dimensions of cocaring quality. Results indicated strong inter-rater reliability for the 8 dimensions and appropriate theoretical associations amongst the individual dimensions, thus offering initial construct validity for the newly developed cocaring observational coding system. Analyses did not reveal any significant associations between teachers' or parents' psychological factors and observed cocaring support or undermining. This study offers future researchers and practitioners a new observational tool to assess cocaring relationships.

Keywords: cocaring relationships, infant-toddler classrooms, well-being

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Recent research has explored how parent-teacher, or cocaring, relationships operate in early childhood education (Lang et al., 2016). Defined as the relationship between a parent and his or her child's early childhood educator, cocaring encompasses how these partners work together in their caregiving roles to coordinate childrearing. Cocaring relationships are composed of multiple dimensions that may impact the overall strength of the bond between partners. In particular, s*upport*, or the level of comfort, communication, encouragement, and trust one cocaring partner receives from the other, and 2) *undermining*, or the ways in which one cocaring partner may contradict, criticize, or distrust the other, have been found to be key dimensions of cocaring (Lang et al., 2016).

Cocaring relationships are extremely important to the quality of care and education of infants and toddlers, as these young children depend on their adult caregivers to communicate their daily experiences and needs at home and school (Bradley, 2010). Self-report data from parents and teachers demonstrate associations between support and undermining and child and parent well-being (Lang, 2014). Indeed, the strength of this home-school connection plays a defining role in the ongoing development of very young children, especially since effective communication and coordination lie solely in the hands of their primary caregivers, specifically their parents and teachers (Reedy & McGrath, 2010). However, observational research has yet to be conducted on how cocaring relationships play out in daily interactions between parents and teachers. Additionally, we know little about how psychological well-being (i.e., depression, anxiety, and personality traits) may influence the quality of these relationships.

My undergraduate thesis research sought to deepen our theoretical understanding of cocaring relationships in early childhood by capturing daily behaviors of cocaring partners and analyzing several psychological factors that may predict cocaring quality.

An Understanding of Cocaring Born from Coparenting Research

In order to explore the concept of cocaring relationships in infant-toddler classrooms and their implications for very young children, cocaring researchers drew on the model of coparenting by Feinberg (2003). According to Feinberg (2002), coparenting describes how well parents work together in their caregiving roles. In a more recent meta-analysis, Teubert and Pinquart (2008) found that coparenting might influence child well-being.

Beginning in infancy, young children use their parents, or other primary caregivers, as social references (Walden, 1991). Hence, children refer to their important caregivers for direction when experiencing uncertain social situations. Together, parents also act as coregulators who assist in the regulation of children's attention, behavior, emotions, and physiology until they develop enough to take control of these functions independently (Hofer, 2006). Indeed, parenting quality is a key predictor of children's later socioemotional strengths (e.g., emotion regulation strategies and healthy relationship habits) or potential problematic behaviors i.e. attachment issues and externalizing behavior problems (Darling & Steinberg, 1993; Rothbaum & Weisz, 1994).

Personality and psychological well-being are two important factors that influence the quality of parenting (Belsky, 1984). These characteristics also affect how well parents work together in their coparenting relationships (Schoppe-Sullivan & Mangelsdorf, 2013; Cabrera, Shannon & La Taillade, 2009). Previous research has shown that less well-adjusted mothers are more likely to have negative interactions with their spouses and family members (Stright &

Bales, 2003). Moreover, personality influences marital interaction and satisfaction, which correlates with one's willingness to support the other partner's parenting practices (Belsky & Hsieh, 1998). Certainly, the compatibility of each individual's personality and psychological well-being within the coparenting relationship influences their combined effectiveness as parents. Research has found that coparenting quality is associated with young children's emotional development, suggesting that parental levels of support and undermining influences child self-regulation (Belsky, Putnam, & Crnic, 1996).

Cocaring and Its Key Associations

Drawing on previous research on coparenting, cocaring researchers have found that parents' perceptions of greater support in the cocaring relationship has been associated with higher parent-child closeness, and their perceptions of undermining in the cocaring relationship have been associated with lower parent-child closeness. Furthermore, after controlling for parent-child closeness and conflict, the presence of undermining in a cocaring relationship is correlated with higher levels of child internalizing behavior (Wells, Lang, Jeon, & Schoppe-Sullivan, 2016).

Recognizing that cocaring relationships may be important for children's development and that more research needs to be done about the associations between psychological well-being and cocaring relationships, I explored what might predict the quality of cocaring relationships through a psychological lens. As part of a preliminary study utilizing previously collected self-report data, I examined the associations between parents' personality, psychological well-being, and dimensions of cocaring. I found that, similar to research on coparenting, personality and psychological well-being may be risk or protective factors for parent-teacher relationships. In particular, parents higher in agreeableness and conscientiousness had more positive perceptions

of the cocaring relationship, whereas parental depression was associated with more negative perceptions of the cocaring relationship (Maras, Peeva, Lang, & Schoppe-Sullivan, 2015).

Current Study

This study is a follow-up component, i.e., Phase III, of the Cocaring Research Project, with Phases I (Lang, Tolbert, Schoppe-Sullivan & Bonomi, 2016) and II (Lang, Jeon & Schoppe-Sullivan, under review) led by my research advisors. Although this study is a contribution to the larger research effort, I generated the idea of investigating potential psychological issues (i.e., anxiety, depression, and personality traits) within cocaring relationships and was the primary investigator of Phase III, executing the data collection and coding analysis for the study over the past year.

Phase III aimed to provide a more extensive understanding of how cocaring dimensions are enacted in daily exchanges between parents and teachers. Though the associations between parents' personality and psychological well-being and self-reported perceptions of the cocaring relationship was a useful first step, measuring observed cocaring interactions for quality instead offers another, more objective way to understand the dimensions of cocaring and explore their predictors. This study also examined the personality and psychological well-being of both partners in the cocaring relationship: parents and teachers. I especially wanted to focus on early childhood teachers because they have multiple cocaring relationships within their classrooms, and hence, identifying those teachers most at risk for developing negative cocaring relationships could have an important impact on multiple children and families.

Phase III examined how specific characteristics of a cocaring relationship are expressed within parent-teacher behavioral interactions, and how anxiety, depression, and personality traits

relate to the quality of observed cocaring behavior. Based on my preliminary examination of the self-report data, the following were my main hypotheses:

1) Parent and teacher depression will be positively correlated with observed undermining.

2) Parent and teacher trait anxiety will be associated with lower observed support.

3) Parent and teacher agreeableness, conscientiousness, extroversion, and openness will be positively correlated with support and negatively correlated with undermining.

4) Parent and teacher neuroticism will be associated with higher undermining and lower support.

Methods

Sample & Demographics

This study included an extensive observational component where the mothers and teachers of 18 infants and toddlers, between 6-36 months of age, were videotaped during pick-up and/or drop-off times in their childcare center classroom. This sample came from 6 full-time, licensed childcare centers in Central Ohio, who were part of Phase I or II of the larger project. 15 of the teachers identified as females and 3 as males. At the time of the study, 72.2% of parents had a graduate/professional degree, and 66.7% of teachers had a bachelor's degree. 72.2% of parents identified as White and 16.7% as Black. Similarly, 72.2% of teachers identified as White and 22.2% as Black. The mean child age was 22.25 months (*SD* = 13.30 months), and 61.1% of the children identified as female. The mean family income was $126,400 (*SD* = $57,788). Last, the families had been part of their classrooms for 9.44 months (*SD* = 4.78 months) prior to the beginning of this study.

Recruitment and Data Collection

After I obtained approval from The Ohio State University's Institutional Review Board to

begin this study, I contacted childcare center directors via email to confirm that they wished to remain a part of the Cocaring Research Project as it entered into Phase III. Once I received center approval, I contacted teacher participants from the previous phases via email. Through a continuous recruitment process, I confirmed each classroom in order to begin the short in-person recruitment process as quickly as possible at each center. Upon confirming classroom involvement, I contacted one new family from each classroom to participate through paper flyers and face-to-face interactions at the childcare center. This portion of recruitment included confirming participants' eligibility and educating them on the consent process to participate in the study and be videotaped. Additionally, each family received a $5 gift card and each teacher received a $10 gift card as incentives for their participation in this study.

These different stages of the recruitment process unfolded simultaneously over several months, especially considering the complexity of coordinating with 6 different childcare centers. Through this recruitment process, my goal was to recruit members of dyadic cocaring relationships in each of the classroom settings in order to begin collecting observational and self-report data.

Upon consenting to be part of this study, each participant received a questionnaire packet to complete that served as the self-report data portion of this study. The questionnaire packet included general demographic questions as well as three other scales that assessed the participants' personality traits and psychological well-being.

Self-Report Measures

The Center for Epidemiologic Studies Depression Scale. Mothers and teachers completed The Center for Epidemiologic Studies Depression Scale (Radloff, 1977), which is a 20-item measure that assesses for symptoms defined by the American Psychiatric Association's

Diagnostic and Statistical Manual (DSM-IV) for a major depressive episode. The 20 questions were answered on a scale of Rarely or none of time (0) to Most or all of the time (3) and summed to yield a final score between 0-60 points. A total score of 16 or more is considered clinically depressed. An example question is as follows: "During the last week, I felt lonely." The items on this scale have displayed high reliability in previous research (e.g., Cronbach's α = >.85; Hann et al., 1999), however, within my sample, the internal consistency of items was not quite as strong: Mothers: (Cronbach's α = .63); Teachers: (Cronbach's α = .60).

The State-Trait Anxiety Inventory. Mothers and teachers completed The State-Trait Anxiety Inventory (Marteau & Bekker, 1992), which is a 40-item measure that evaluates adults' temporary state (20 items) and enduring trait anxiety (20 items) and distinguishes anxiety from depressive symptoms. The 40 items are rated on a scale of Almost Never (1) to Almost Always (4). Example items assessing state anxiety and trait anxiety, respectively, are as follows: "I am tense" and "I am a tense person." Research has indicated that this scale can be used as a predictor for caregiver distress over time (Elliott, Shewchuk, & Richards, 2001). Additionally, studies have shown that the internal consistency of this scale has ranged from .86 to .95 (Spielberger et al., 1983). The internal consistency in our sample was comparable: Mothers: (Cronbach's α = .96); Teachers: (Cronbach's α = .95).

The NEO – Five Factor Inventory – 3. Mothers and teachers completed The NEO – Five Factor Inventory – 3 (Costa & Roberts, 2010), a 60-item standard personality assessment, which determined the presence and level of 5 personality traits including agreeableness, conscientiousness, extroversion, neuroticism, and openness. Each item is scored on a scale of Highly Disagree (1) to Highly Agree (5). Each of the five personality traits has 12 items; those 12 items are summed to compute the score for the corresponding trait. For my analysis, I used

the continuous sum for each personality dimension.

1. Agreeableness

Example item: I am trustworthy.

Scoring: Typically males and females are considered high on agreeableness if they score about a 35 or 36, respectively, or very high if they score above a 40 or 41, respectively. As you can see in my sample, mothers and teachers, on average, were very high on this personality dimension.

Study sample

Mothers: (α = .76).

Teachers: (α = .56).

2. Conscientiousness

Example item: I keep my belongings neat and clean.

Scoring: Typically males and females are considered high on conscientiousness if they score about a 38 or 39, respectively, or very high if they score above a 43 or 44, respectively. As you can see in my sample, mothers and teachers, on average, were very high on this personality dimension.

Mothers: (α = .83).

Teachers: (α = .91).

3. Extroversion

Example item: I make friends easily.

Scoring: Typically males and females are considered high on extroversion if they score about a 31 or 32, respectively, or very high if they score above a 37 or 48,

respectively. As you can see in my sample, mothers and teachers, on average, were very high on this personality dimension.

Study sample

Mothers: (α = .94).

Teachers: (α = .73).

4. Neuroticism:

Example item: I often feel tense and jittery.

Scoring: Typically males and females are considered high on neuroticism if they score about a 22 or 26, respectively, or very high if they score above a 30 or 33, respectively. As you can see in my sample, mothers and teachers, on average, were high on this personality dimension.

Study sample:

Mothers: (α = .74).

Teachers: (α = .70).

5. Openness

Example item: I have wild ideas.

Scoring: Typically males and females are considered high on openness if they score about a 31 or very high if they score above a 37. As you can see in my sample, mothers and teachers, on average, were very high on this personality dimension.

Study sample:

Mothers: (α = .84).

Teachers: (α = .69).

Observational Assessment

In order to collect the observational data component, my research assistants and I traveled to each of the 6 childcare centers and recorded specific mother-teacher interactions on several separate occasions, up to 4 times per individual parent-teacher dyad. We coordinated with parents and teachers to record and observe their pick-up and drop-off times, trying to capture both for a particular dyad when we could. We taped the entirety of each interaction until the parent left the classroom. The average length of an interaction was 364.4 seconds, or 6 minutes (*SD* = 201.12 seconds, approximately 3.5 minutes).

Coding Process. Over the course of the study, I collected 58 taped interactions from 18 mother-teacher dyads across 6 childcare centers. An undergraduate research assistant and I coded each videotaped interaction using the Coparenting Behavior Coding Scale (Altenburger et al., 2014; Cowan & Cowan, 1996) as our guide, adjusting where appropriate to develop a new Cocaring Behavior Coding Manual (CBCM), which allowed for objectivity and consistency between coders. The Coparenting Behavior Coding Scale, and my newly developed Cocaring Behavior Coding Manual, comprises 8 dimensions including anger, coldness, competition, cooperation, displeasure, interactiveness, pleasure, and warmth, rated on a scale of very low (1) to very high (5). More details on the CBCM are provided in the Results section.

With the guidance of my advisors, I altered each of the eight scales to reflect cocaring actions. Because four scales are individually coded (I) i.e. coldness, displeasure, pleasure, and warmth, and four scales are coded dyadically (D) i.e. anger, competition, cooperation, and interactiveness, the coding team rated 12 components per taped interaction.

The individual scales (e.g., parent coldness and teacher coldness) identify differences in behavior between cocaring partners in the same interaction. An example of differences in parent

coldness and teacher coldness is as follows: a mother may come into the classroom to pick up her daughter, not approach the child's teacher, or attempt to engage in conversation with the teacher; however, the teacher may come up to the mother, smile, and begin opening up about the child's day. The mother was dominant in coldness, scoring moderate or high in coldness, whereas the teacher did not display qualities of coldness, scoring low in coldness. On the other hand, dyadic scales (e.g., cooperation) account for qualities that are shared between partners during the course of the interaction, resulting in a single score per interaction. For example, when both partners choose to work together to transfer the child from home to school, they are engaging in cooperation and would receive a moderate to high score. Partners may display moderate to high verbal cooperation through a constructive conversation about how long the child napped while at school and agreeing on ways to improve sleeping through the night at home. Similarly, one partner retrieving the child's belongings from his or her cubby while the other partner gets the child off of the playground could express moderate to high physical cooperation.

Scale Adaptation. The 2-person coding team individually coded each interaction and used a scoring sheet to record scores as well as note general observations that influenced scoring. Coders were blind to the participant self-report responses during the coding process to prevent any biases. The coding team met on several occasions to review and discuss their individual scores. During these meetings, the team worked to distinguish between similar scales and identify behaviors that should represent them in the manual (e.g., what exactly is pleasure, and how is it different from warmth? What are behaviors exclusive to each scale?). Through gradually developing new definitions of each scale, the team was able to update each of the 8 cocaring scales to reflect their shared definitions about the behaviors and conversations seen

during coding the 58 taped interactions. By meeting consistently, the team was able to create the Cocaring Behavior Coding Manual with clarity and specificity that could not have been achieved without such extensive collaboration.

Conference Process. Criteria for the team to conference on a taped interaction was as follows: being 1 point off on 4 or more scales and/or being 2 points off on 1 or more scales. The coding team conferenced on any videos that did not meet these specific criteria and reviewed videos together to come to a joint final score. Overall, the team conferenced on 19% (11/58) of the taped interactions.

Data Entry. As part of the data collection process, participants completed questionnaires, including the specific scales identified measuring their personality traits and psychological well-being. Upon collection, two research assistants entered in the self-report data in SPSS based on each scale's scoring systems, as indicated in each scale's manual. One assistant entered in parent participant data while the other assistant entered in teacher data. To check their work, they simply switched sets of data. Every participant was assigned a unique identifying code that linked their self-report data with their videotapes.

Results

Cocaring Behavior Coding Manual

Observed Support. Observed Support is characterized by indications of giving and receiving help and support, engaging in effective communication, and enjoying the overall connection within the cocaring relationship. This cocaring construct is composed of 4 coding scales: cooperation (D), interactiveness (D), pleasure (I), and warmth (I) (Table 1).

1. Cooperation (D)

Qualities:

- Reflects degree to which partners help and support one another in caring for child.
- Help and support between partners can be instrumental as well as emotional.
- Note: Cocaring cooperation can be demonstrated through physical cooperation, e.g., packing up child's things from the day, or represented as a verbal conversation about home/school practices.

I expanded upon Altenburger and colleagues' (Altenburger et al., 2014) coparenting definition of cooperation by including physical and verbal examples of cooperation, which are evident in cocaring relationships. To demonstrate this expansion, I added a new example to the manual (see Appendix A): Parent feels comfortable transferring child to teacher for the day, and the teacher aids in a positive transfer through conversation and/or action.

2. Interactiveness (D)

Qualities:

- Degree to which partners talk with and engage with each other.
- Interaction can be both verbal and non-verbal. Non-verbal might take the form of giving glances, smiles, or other expressions, and attempting to elicit those from partner.
- Interaction can be initiated by either partner.
- Interaction can have a positive and/or a negative emotional tone.
- Note: Rating is more an assessment of quantity of interaction.

I chose to place this scale under Observed Support because higher interactiveness among cocaring partners was positive and usually added to the overall quality of that relationship. I did not change the coparenting definition of interactiveness, besides eliminating examples of interaction that exclusively pertain to those in a romantic relationship (i.e., spouses who are also parents), for example, removing any mention of the word "touch". I also created new examples

that reflected the more professional nature of a cocaring relationship: 1) Partners carry on a conversation about their personal lives, daily happenings, or other related topic, and 2) Partners get sidetracked in the middle of conversation by getting off topic, which adds to the length and overall depth of interaction.

3. Pleasure (I)

Qualities:

- Partner appears to enjoy sharing and collaborating in cocaring role and is able to demonstrate that during the interaction (e.g., laughing or smiling).
- Partner appears to be pleased with other's relationship with child; is able to comfortably watch partner's individual relationship with child.
- Partner displays playfulness and humor with the other about his or her respective caregiving styles/practices and his or her relationship with the child.

The cocaring definition of pleasure is identical to Altenburger and colleagues' (Altenburger et. al, 2014) coparenting definition; I only edited for terms like "couple", switching it to "partners", reflecting the professional nature of the cocaring relationship.

4. Warmth (I)

Qualities:

- Partner demonstrates positive regard for the other partner (e.g., laughing with, smiling at, and saying nice things to the other partner).
- Responsive/working together – The partner displays a feeling of appropriate connection to the other partner
- Partner provides appropriate emotional support, reassurance, and encouragement for other caregiver that is authentic.

- Generosity of affect, smiles, and self; this generosity seems authentic.
- Note: Physical affection is rare and if seen, definitely considered a "5".

Altenburger's coparenting definition of Warmth gives a significant amount of attention to the couple's level of affection – whether it is physical or inferred. Due to the more professional nature of the cocaring relationship, I reconstructed this aspect of warmth, removing phrases like "touch" and "playfulness" that did not appropriately fit the parent-teacher context. Additionally, I introduced the idea of greetings/goodbyes as a way to quantify a warm interaction, as seen in our explanation of high warmth (Appendix A): this (warm) regard for each other may been seen through purposeful, genuine greeting/goodbye or inferred through a feeling of connectedness that exists between them.

Observed Undermining. Observed Undermining is characterized by indications of being subverted or distrusted by partner and feeling irritated, competitive, and/or distant in the cocaring relationship. This cocaring construct is composed of four coding scales: anger (D), coldness (I), competition (D), and displeasure (I) (Table 2).

5. Anger (D)

Qualities:

- Degree to which partners express irritation or dislike toward each other or toward their specific behavior(s).
- Anger can be expressed in a direct, expressive manner (e.g., sarcasm, irritation), or in a more withholding manner (e.g., by becoming quiet and withdrawn, disengaging from interaction with rejecting or annoyed quality).

There were no changes to the coparenting definition of anger. My only addition was to expand on the concept of partner disapproval in my explanation of moderate anger: there is

obvious disapproval about the child's care from either partner e.g. frustrated facial expression, verbal sighs, but that partner does not verbally act out against it.

6. Coldness (I)

Qualities:

- Partner seems distant, closed-off, and generally uninterested and apathetic towards the other.
- Sense of partner keeping a distance between him/herself and other partner.
- Partner displays disdain towards other caregiver. Disdain is visible through curtness, snubbing, or a general lack of response toward partner and partner's attempts to engage in interaction.
- Partner seems to withhold interactions on purpose or because they have difficulty with emotional connection.

When editing Altenburger and colleagues' (Altenburger et al., 2014; Cowan & Cowan, 1996) coparenting definition of coldness, I chose to replace phrases like "affection" with "emotional connection" to reflect the less intimate nature of the cocaring relationship. One aspect of coldness that is not evident in the coparenting definition is how the partners treat the child during the interaction; I referenced this concern within the moderate coldness explanation: Partner ignores any attempt for interaction with the child. This expression of coldness may include one partner not reacting to their partner's separate interaction with the child or one partner withdrawing from the situation so their partner can take over with the care of the child (i.e., transition from home to school).

7. Competition (D)

Qualities:

- Partners try to outdo each other's efforts to teach, work, and play with child.
- Partners vie to have child respond to their suggestions or to them.
- Partners might interrupt or talk over one another.

Overall, the coparenting and cocaring definitions of competition remain nearly identical. However, I chose to introduce one additional explanation for moderate competition: There may be a conversation about how the child is at home versus at school, and partners have a varying opinion/perspective on it.

From observation, I have seen various interactions, both positive and negative, that take on a competitive nature when it comes to discussing child progress at home versus school (e.g., taking naps, eating specific foods, learning to crawl). Therefore, I thought it appropriate to note it as a guideline for moderate to high competition.

For example, in one taped interaction, a mother and teacher conversed about the infant sitting up to attempt flipping on his stomach at school. When the mother replied that he always does that (and successfully) at home, the conversation's tone changed from relaxed and positive to competitive and negative. Through identifying the overall shifts in tone and affect during interactions, I was able to more accurately differentiate between specific scales when it came to assigning scores.

8. Displeasure (I)

Qualities:

- The partner expresses dislike of the other's style of interacting with child either directly or veiled (e.g., through sarcasm).
- The partner expresses dislike of the quality of the other's relationship with child. (Dislike can be reaction to how positive the relationship is or to how negative it is.)

- Partner does not enjoy working or conversing with the other caregiver.

I did not alter the definition of Displeasure; however, I edited for correct terminology, changing "parent(s)" to "partner(s)".

Observational Scales

In order to address the reliability of these adapted scales, I assessed inter-rater reliability of each scale by calculating the Intraclass Correlation Coefficient (ICC), or the percentage of absolute agreement among the coders, for each of the eight scales. The standard coder reliability in observational research is .7 (Koch, 1982); Intraclass correlations for the eight scales indicated high inter-rater reliability (.77 to .88) for the 8 scales (Table 1 and Table 2). The mean score for Observed Support was 2.84 and the mean score for Observed Undermining was 1.59, indicating participants' cocaring relationships were generally more positive.

Scale Intercorrelations

Appropriate correlations amongst the individual scales offered initial validity for the newly adapted observational cocaring coding system and also promoted theoretical construct validity (Table 3). For example, parent and teacher pleasure positively correlated with cooperation $r = .73$, $p < .01$ and $r = .84$, $p = <.05$ respectively, offering confirmation that when both cocaring partners are individually enjoying the interaction, it is reflected in observed behaviors that are dyadically coded. This finding is consistent across all combinations of other individual supportive behaviors and their supportive dyadic counterparts (i.e., warmth and interactiveness, warmth and cooperation, and pleasure and interactiveness).

In addition, findings show that cocaring partners may tend to mirror behaviors at an individual level; for example, teacher coldness is positively correlated with parent coldness $r = .80$, $p = < .01$. This correlation also validated the team's consistent rating of one behavior across

both partners.

Significant negative correlations were also found from this new coding system, especially concerning relationships between dyadic qualities, where anger was negatively associated with cooperation $r = -.61$, $p = < .01$, offering further evidence that the cocaring dimensions were related in expected ways.

For analysis and consistent with research on coparenting (Jia & Schoppe-Sullivan, 2011), I grouped these 8 scales under two overarching dimensions of observed cocaring: support and undermining. With these theoretical structures as our guide, I created two composite constructs to organize the eight scales: Observed Support and Observed Undermining. I summed the scales by adding each individual and dyadic score together to yield two composite scores (Figure 1).

Self-Report Scales

Results showed that the study sample was not clinically depressed; 16 is the cut-off score on the CESD to diagnose Major Depressive Disorder, indicating a non-clinical sample. On the Center for Epidemiological Scale for Depression (CESD), Mothers reported a mean score of 4.13 (Table 4) and teachers reported a mean score of 7.67 (Table 5). In addition, the NEO-Five Factor Inventory show results indicative of a well-functioning sample, as participants rated themselves highly on all five personality traits (Table 4 and 5).

Correlations Between Observed and Psychological Scales

By using correlational analysis, I evaluated the associations between the participants' perceived psychological well-being and the observed quality of their cocaring relationships. My analyses did not find any significant associations between participants' psychological factors and observed cocaring support and undermining (Table 6 and Table 7).

Discussion

My study intended to identify predictors of cocaring quality including anxiety, depression, and personality traits and sought to further our current understanding of cocaring relationships as they play out in daily parent-teacher interactions. Although I found no significant associations between psychological well-being and the two cocaring constructs (i.e. observed support and undermining), the study still broadened our general understanding of how cocaring relationships work in infant-toddler classrooms.

There are several potential reasons why my study did not yield significant associations between participants' observed behaviors and psychological factors. First, it may be that contrary to coparenting relationships, cocaring relationships, being more professional and less intimate in nature, are not as affected by these more psychological variables. Furthermore, because cocaring interactions are typically perceived by society as more professional interactions, partners may be more self-aware, thus consciously choosing to enhance or suppress certain personality traits in their actions towards one another. Second, the study's sample size was small: 18 mother-teacher dyads, or 36 participants. This small sample size, providing limited power to detect significant associations, may also have impacted our results. Third, through analyzing participants' anxiety, depression, and personality scores, it became evident that the study's sample size was healthy. The limited variability in participants' psychological factors may have made it more difficult to detect significant associations.

Because this study is the first to focus on associations between psychological well-being and observed cocaring quality, more studies, with larger and more diverse samples, are needed to substantiate the lack of association between parents' and teachers' psychological well-being and cocaring quality. Previous research has found significant associations between teachers' psychological well-being and their relationship quality with young children. For example, in a

study concerning teacher depression and child behavior problems, researchers found that depression in preschool teachers negatively impacts their relationships with very young children (Jeon, Buettner, & Synder, 2014). Thus, it remains likely that individual psychological factors may affect cocaring relationships.

This study, being the first of its kind to observe cocaring rather than assessing parents' or teachers' perceptions of cocaring via interviews (Lang et al., 2016) or questionnaires (Lang et al., under review), yielded valuable information regarding specific behaviors that convey support and undermining in cocaring relationships. My adaptation of the Cocaring Behavior Coding Manual furthered the theoretical understanding of the components that compose more positive or more negative cocaring relationships, which is essential to the future of early child education and the outcomes associated with childcare centers for very young children. Because the coding team was able to achieve high interrater reliability for all 8 scales, the CBCM can offer a strong guide for future cocaring research. In particular, this high interrater reliability promotes high initial construct validity for the manual, highlighting its potential to be used as an accurate measurement of cocaring quality in observed interactions.

The Cocaring Behavior Coding Manual can also be used as a guide to analyze parent-teacher relationships in practice. When used as a practical tool, the manual will provide childcare directors and teachers with new insight into specific qualities of supportive and undermining behaviors, exclusive to parent-teacher interactions. Through the extensive observation of parent-teacher interactions, we are closer to educating parents and teachers on how to successfully navigate new cocaring relationships; for example, from results we know that parent and teacher pleasure and warmth are all associated with interactiveness among partners, bolstering my evaluation of interactiveness being a positive quality of a cocaring relationship. On the other

hand, through observing these relationships, we are closer to educating parents and teachers on how to effectively troubleshoot failing cocaring relationships. I found that parent coldness and teacher coldness are highly correlated, possibly indicating that cocaring partners tend to mirror each other's behaviors.

Observing these cocaring relationships in a natural setting (i.e., their classrooms during pick-up or drop-off time) and notifying participants that they were being taped during a specified day and time may have limited the study's ability to capture more negative interactions. This observer effect could have potentially impacted overall quality of taped interactions because the partners may have been uncomfortable with us watching their behaviors and listening to their conversations, causing them to alter their typical behaviors and conversations. However, our team attempted to combat this effect by videotaping the interactions from the corner or side of the classroom in order to discreetly capture interactions as they played out. Additionally, we taped interactions from the time the mother entered the classroom and until she left, allowing the cocaring interaction to unfold naturally without starting or stopping its progress. Lastly, we observed and videotaped each dyad at least two times, though we tried to capture each dyad four times, in the hope that over time, with multiple tapings, we could capture interactions as natural as possible. Overall, this procedure proved to be the most effective way to complete the observational component, especially considering the logistical restrictions of differing schedules between families, teachers, and research assistants.

In conclusion, this information will prove to be valuable for furthering our theoretical understanding of parent-teacher relationships for very young children, especially when it comes to the overall functioning of cocaring relationships. By offering the newly adapted Cocaring Behavior Coding Manual as an effective tool for both observational research and applied

settings, this study will also serve as the foundation for future intervention strategies aimed at strengthening the cocaring relationship from both parent and teacher perspectives. In doing so, we are one step closer towards improving cocaring relationships, ultimately positively impacting children's development.

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Appendix A

Cocaring Behavior Coding Manual

1. **Cooperation** (Dyadic)
Qualities:
- Reflects degree to which partners help and support one another in caring for child.
- Help and support between partners can be instrumental as well as emotional.

Range of scale:

(5) Very high cooperation
- Partners are very frequently actively cooperative. They do not negatively interrupt one another, or distract from other's interventions with child. Partners work together consistently and effortlessly and/or are verbally in sync about childrearing practices enacted at home and in the classroom.

(4) High cooperation
- Each partner builds on other's efforts to help child; minimum of interrupting or distracting from partner's interventions and/or ideas; cooperation is easy/smooth and frequent. Working together a lot, very actively involved and/or lots of verbal agreement and encouragement between partners.

(3) Moderate cooperation
- Partners generally work with and support each other, though there are times when helping one another lapses and partners appear less in concert. Working together more than 50% of the time, echoing each other's comments, but not necessarily engaging in truly active cooperation or agreement.

(2) Low cooperation
- Partners are usually not supporting or working with each other; partners will appear to have separate ways of working with their child, though they'll share the same approach on occasion. Working together less than 50% of the time, and cocaring is not very supportive, might even say is more hurtful than helpful. There may be conversation, but it is not productive, and they do not come up with any solutions.

(1) Very low cooperation
- Virtually no effort is made by partners to support and assist each other; partners will appear to be working with the child independently of their partner, whether physically or through conversations about home versus school practices.

Examples:
- Partner repeats or elaborates on what the other has said to the child.
- They comply willingly with partner's request for help or task.
- Parent feels comfortable transferring child to teacher for the day, and the teacher aids in a positive transfer through communication and/or action.

Note: Cocaring cooperation can be demonstrated through physical cooperation i.e. packing up child's things from the day or represented as a verbal conversation about home/school practices. In both cases, Cooperation can be scored as a (5).

2. **Interactiveness** (Dyadic)

Qualities:

- Degree to which partners talk with and engage with each other.
- Interaction can be both verbal and non-verbal. Non-verbal might take the form of giving glances, smiles, or other expressions, and attempting to elicit those from partner.
- Interaction can be initiated by either partner.
- Interaction can have a positive and/or a negative emotional tone.
- **Rating is more an assessment of quantity of interaction.**

Range of scale:

(5) Very high interactiveness

- Very frequent interaction between partners. Partners respond eagerly to interaction with one another. Partners talk a lot and frequently go off topic.

(4) High interactiveness

- Partners both initiate and respond to interaction with each other. Interaction between partners is conversational. Partners must interact with one another, discussing subjects outside of the task. One off topic conversation in the context of high interaction.

(3) Moderate interactiveness

- Partners' interactions usually occur around requirements of the task and/or child, and that's it. Periods where partners are less interactive exist. Partners have one or two exchanges with one another, mostly centered around the child.

(2) Low interactiveness

- Partners engage with each other as needed, but interaction is brief. Partners rarely talk with each other unless necessary.

(1) Very low interactiveness

- Parents barely engage with each other.

Examples (for higher scores):

- Partners carry on a conversation about their personal lives, daily happenings, or other related topic.
- Partners get sidetracked in the middle of conversation.

3. Pleasure (Individual)
Qualities:

- Partner appears to enjoy sharing and collaborating in cocaring role and is able to demonstrate that during the interaction.
- Partner appears to be pleased with other's relationship with child; is able to comfortably watch partner's individual relationship with child.
- Partners display playfulness and humor with each other about their respective caregiving styles/practices and their relationship with the child.
- How much the partners look at one another, laugh, or smile.

Range of scale:

(5) Very high pleasure
- Such expressions of pleasure and appreciation as in (4) are very frequent and of high intensity (e.g., shared laughter, etc.). Partner seems to be getting a "kick" out of the majority of the interaction, having a blast, in sync with one another.

(4) High pleasure
- Partner expresses/shows enjoyment and appreciation of how their partner plays with the child and of the relationship between their partner and the child. Can share involvement with partner or enjoy watching dyad play. Laughs together frequently.

(3) Moderate pleasure
- They seem to enjoy partner's relationship with child and cocaring with each other. However, enjoyment is not present at all times and is generally muted in some way. Partners' enjoyment of each other is partly inferred rather than directly observed. Smiling or laughing a few clear times.

(2) Low pleasure
- Though partners do not necessarily show negative feelings toward each other, they rarely show enjoyment of partner's relationship with child. Their response to partner's relationship is either **neutral or negative** in tone. Rarely smiling or laughing.

(1) Very low pleasure
- Virtually no pleasure visible.

Examples:

Is the pair having fun while doing the tasks?
Are they sharing clear positive comments, laughing, smiling?

4. **Warmth** (Individual)

Qualities:

- Partners demonstrate positive regard for each other; laugh, smile, say nice things to each other. **Note:** Physical affection is rare and if seen, definitely consider a "5".
- Responsive/working together – a feeling of appropriate connection between partners is visible.
- They provide appropriate emotional support, reassurance, and encouragement for partner that is authentic.
- Generosity of affect, smiles, and self; this generosity seems authentic.

Range of scale:

(5) Very high warmth

- Displays of warmth pervade the episode. Lots of smiling, encouragement, and support towards one another.

(4) High warmth

- Partners openly, clearly demonstrate positive regard for each other. This regard for each other may been seen through purposeful, genuine greeting/goodbye or inferred through a feeling of connectedness that exists between them, although, this feeling of warmth is not as pervasive as in (5). Frequently say nice things to one another and/or Conversations that demonstrate their relationship beyond the child.

(3) Moderate warmth

- Partners display a reasonable amount of positive regard for each other. The sense of connectedness is apparent but not striking. Sometimes say nice things to one another, which can be seen through opening up about home life and general agreement in conversations.

(2) Low warmth

- Partners are less open and relatively tentative in their display of positive regard for each other. Limited sense of connectedness between partners. Somewhat unresponsive to partner's gestures, conversations, and/or suggestions).

(1) Very low warmth

- Virtually no warmth visible from partners; seem disconnected from each other.

Examples:

- Looking at one another and laughing or smiling in a positive manner.
- If one partner is saying something like "I am such a terrible artist," the other might reassure the first by saying "You did a great job, that picture looks just like you!"

5. **Anger** (Dyadic)

Qualities:

- Degree to which partners express irritation or dislike toward each other or toward their specific behavior(s).
- Anger can be expressed in a direct, expressive manner (e.g., sarcasm, irritation), or in a more withholding manner (e.g., by becoming quiet and withdrawn, disengaging from interaction with rejecting or annoyed quality).

Range of scale:

(5) Very high anger
- Repeated or continuous hostility is expressed either overtly by partner's yelling, threatening, or blaming partner, or more indirectly through a continual disengagement from and rejection of partner. (For highest level rating, could display one burst of extreme hostility). Typically, though several clear comments.

(4) High anger
- Clear hostility aimed at each other or at partner's behavior or requests. Intensity of emotion is clearly quite high and partners have difficulty calming down or letting go of the anger. Partners do not seem out of control, and anger, though quite strong, has some understandable source. One clear, angry comment among other vague angry instances.

(3) Moderate anger
- Irritation is shown in a variety of ways (see definition) and lasts for more than just moments or recurs at points throughout the session. One clear, angry comment. There is obvious disapproval about the child's care from a partner, but that partner does not verbally act out against it.

(2) Low anger
- Partners show mild irritation with each other's specific behavior. Anger is momentary; partners recover easily and return to non-angry interactions. This irritation may occur one time, and if so would be considered typical. A few vague instances.

(1) Very low anger
- No evidence of anger observed.

Examples:

- If one partner is trying to work on changing a diaper, and is doing it the wrong way, the other partner may say "That's not how you do it." The partner might stop working all together. Both partners seem irritated.
- If one partner repeats something over and over showing some irritation. For example "I have a question. I have a question. I have a question…" (while the other partner and child are engaged in something).

6. **Coldness** (Individual)
Qualities:

- Partners seem distant, closed-off, and are generally uninterested and apathetic towards each other.
- Sense of each partner keeping a distance between him/herself and other partner.
- They can show disdain toward partner. Disdain visible through curtness, snubbing, or a general lack of response toward partner and partner's attempts to engage in interaction.
- Partner seems to withhold interactions on purpose or because they have difficulty with emotional connection.

Range of scale:

(5) Very high coldness
- Non-engagement with partner predominates and appears to be intentional. They seem disinterested in partner. Disdain visible.

(4) High coldness
- They interact with partner, but in a clearly withdrawn or aloof fashion. Captures essence of definition. One partner rejects other partner's overtures for closeness (emotional or physical).

(3) Moderate coldness
- They generally keep to self during much of the session OR some snubbing (verbal or nonverbal) of partner's attempts to engage or get close to each other (physically or emotionally). One partner says something and the other doesn't respond OR consistent looking up with no response. Emotionally withdrawn. Partner ignores any attempt for interaction with the child.

(2) Low coldness
- Some withdrawal visible. They are generally open to their partner and to their overtures for warmth without necessarily initiating this contact themselves. A slight amount of distance between partners is noticeable. Must have some reason to think partner is emotionally withdrawn.

(1) Very low coldness
- Virtually no coldness visible between partners.

Examples:

- If a teacher puts the child's hat on them and a few seconds later, the parent take it off without saying anything, this is a small amount of coldness.
- If one partner makes a comment(s) and the other completely disregards it.

Note: Score using colder parent; to get a score of 4-5, coldness must be intentional. This would happen when one partner makes a comment and the other completely ignores him/her.

7. **Competition** (Dyadic)

Qualities

- Partners try to outdo each other's efforts to teach, work, and play with child.
- Partners vie to have child respond to their suggestions or to them.
- Partners might interrupt or talk over one another.

Range of scale:

(5) Very high competition
- Efforts to outdo one another's teaching/playing take precedence over helping child to learn/playing with child or may appear completely independent of the child. Several clear intentional instances are displayed.

(4) High competition
- Partners may be helping the child to learn/playing with the child, but their main concern is clearly to outdo each other – either in their caregiving or in general – partners try to outdo one another throughout session. One clear instance of **intentional** competition plus several more subtle ones are shown.

(3) Moderate competition
- Partners are visibly trying to "one up" each other but only on occasion; competition doesn't interfere with child's play, performance, or progress. One clear instance of competition is displayed (or a number of more subtle instances). These instances are not considered intentional (intentional instances get at least a "4"). There may be a conversation about how the child is at home versus at school, and partners have a varying opinion/perspective on it.

(2) Low competition
- Partners are not engaged in efforts to out-do one another for the most part; occasionally a comment or behavior will be made by one partner suggesting that they feel they have a more effective caregiving strategy, though it comes across as constructive and not challenging. Partners talk over each other once or twice. Partners "accidentally" work on different parts of the task at the same time. If anything occurs at all, give a 2.

(1) Very low competition
- No competition visible. Partners display absolutely no interruptions or other competitive comments.

Examples:

- One partner might try to discuss something with the child, maybe about running on the playground, and the other partner might interrupt and change the subject.
- One partner might suggest one color of crayon to the child and the other might hand the child another color.

8. **Displeasure** (Individual)

Qualities:

- They express dislike of partner's style of interacting with child either directly or veiled (i.e., sarcasm).
- They express dislike of the quality of partner's relationship with child. (Dislike can be reaction to how positive the relationship is or to how negative it is.)
- Partners do not enjoy working or conversing together.

Range of scale:

(5) Very high displeasure
- They are both displeased and/or threatened by other partner's relationship with the child; displeasure can be expressed as jealousy (e.g., "he likes playing with you more than playing with me"). Partners display several clear comments.

(4) High displeasure
- They actively show or say they dislike how their partner is caregiving or criticizes partner's relationship with child. Statements are overt; feelings are clear. Partner may verbalize one clear comment plus several subtle comments.

(3) Moderate displeasure
- Predominantly veiled (sarcastic) or subtle comments or tone during interaction suggest their dislike of partner's relationship with the child, or on only one occasion a partner shows overt displeasure. One or two subtle comments or one clear, overt comment from a partner.

(2) Low displeasure
- They are generally unbothered by partner's relationship with the child; however, they might occasionally jab or otherwise indicate some negative feelings. One subtle comment from one of the partners. Some vague comments are made. Not clear. Not accompanied by negative facial reaction.

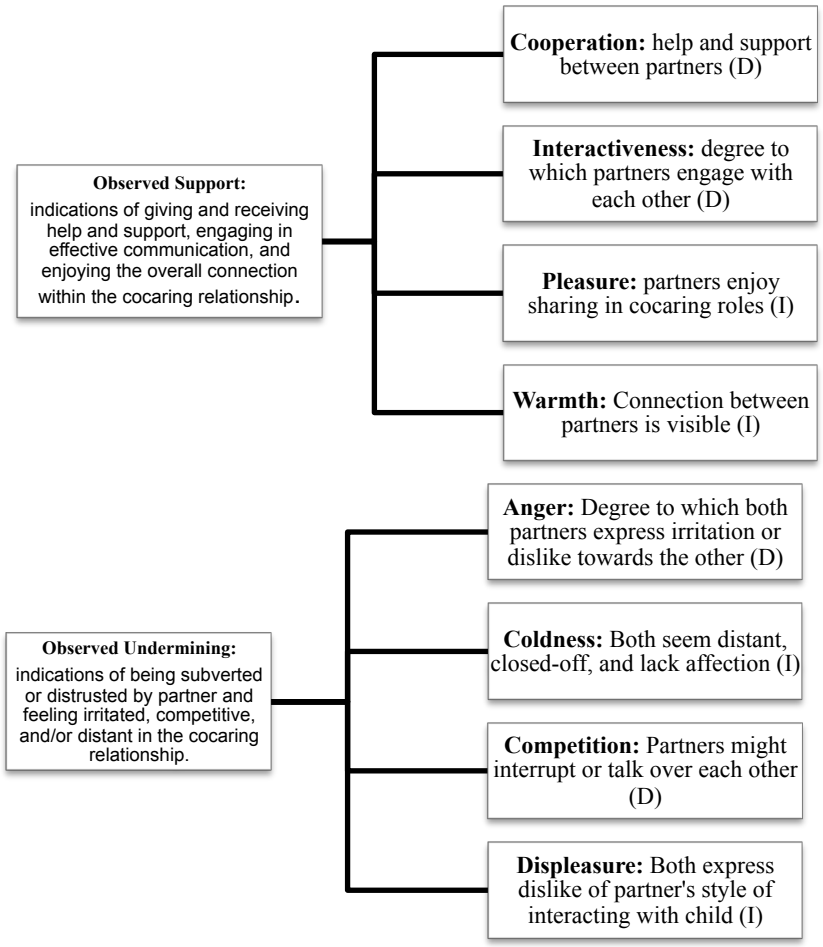
(1) Very low displeasure
- No displeasure visible.

Examples:

- A strong example might be the teacher said to the child: "We had lots of fun today while Mommy wasn't around!"
- A subtler example might be if the teacher said to the child: "You walked for me today, didn't you?"

Figure 1

Description of the Cocaring Behavior Coding Manual and the cocaring composite variables.



Note: These scales were adapted from the Coparenting Behavior Coding Scales (Cowan & Cowan, 1996; Altenburger et al., 2014). As each mother-teacher dyad was video recorded two to four times, we averaged each dyad's scores across their taped interactions. (D) indicates the scale is coded at the dyadic level, whereas (I) indicates it is coded at the individual level.

Table 1

Descriptive Statistics of the cocaring scales that compose observed support

Scale	Cooperation	Interactiveness	Teacher Pleasure	Parent Pleasure	Teacher Warmth	Parent Warmth
M	2.74	3.08	2.86	2.80	2.83	2.70
SD	.53	.58	.46	.50	.47	.58
ICC	.86	.77	.83	.88	.82	.87
Range	1.75-3.67	1.88-4.5	2.00-4.00	2.00-3.67	1.75-3.50	1.25-3.67

Note: *M* = mean; *SD* = standard deviation; ICC = Intraclass correlation coefficient; Range = minimum and maximum scores, averaged across 2 to 4 observations.

Table 2

Descriptive Statistics of the cocaring scales that compose observed undermining.

Scale	Anger	Teacher Coldness	Parent Coldness	Competition	Teacher Displeasure	Parent Displeasure
M	1.46	1.51	1.79	1.69	1.48	1.60
SD	.36	.45	.66	.44	.42	.48
ICC	.77	.86	.87	.80	.84	.86
Range	1.00-2.25	1.00-2.50	1.00-3.63	1.00-2.63	1.00-2.50	1.00-3.00

Note: *M* = mean; *SD* = standard deviation; ICC = Intraclass correlation coefficient; Range = minimum and maximum scores

Table 3

Correlations between cocaring scales.

	T. Pleasure	**P. Pleasure**	**T. Warmth**	**P. Warmth**	**Cooperation**	**Interactiveness**	**T. Displeasure**	**P. Displeasure**	**T. Coldness**	**P. Coldness**	**Anger**	**Competition**
T. Pleasure	1											
P. Pleasure	.82**	1										
T. Warmth	.81**	.79**	1									
P. Warmth	.76**	.94**	.83**	1								
Cooperation	.73**	.84**	.56*	.82**	1							
Interactiveness	.53*	.69**	.77**	.78**	.41	1						
T. Displeasure	-.52*	-.46	-.42	-.37	-.39	-.16	1					
P. Displeasure	-.47*	-.66**	-.54*	-.59*	-.48*	-.42	.70**	1				
T. Coldness	-.80**	-.77**	-.83**	-.75**	-.60**	-.71**	.67**	.70**	1			
P. Coldness	-.66**	-.82**	-.79**	-.90**	-.80**	-.74**	.41	.60**	.80**	1		
Anger	-.38	-.48*	-.35	-.49*	-.61**	-.07	.37	.62**	.43	.61**	1	
Competition	-.05	-.17	-.04	-.11	-.09*	-.08	.21	.49*	.34	.32**	.52*	1

Note: p = ** = $p < .01$; * = $p < .05$; T = Teacher; P = Parent

Table 4

Descriptive statistics for mothers' psychological scales.

Scale	CESD	STAI	AGREE	CONSC	EXTRO	NEURO	OPEN
M	4.13	54.00	47.94	50.19	43.19	26.19	42.06
SD	3.01	17.36	8.79	6.49	11.18	6.16	8.39
A	.63	.96	.76	.83	.94	.74	.84

Note: *M* = mean; *SD* = standard deviation; α = Cronbach's Alpha; CESD = The Center for Epidemiologic Studies Depression Scale; STAI = State-Trait Anxiety Scale; AGREE = Agreeableness; CONSC = Conscientiousness; EXTRO = Extroversion; NEURO = Neuroticism; OPEN = Openness.

Table 5

Descriptive statistics for teachers' psychological scales.

Scale	CESD	STAI	AGREE	CONSC	EXTRO	NEURO	OPEN
M	7.67	57.00	48.72	43.33	46.50	31.06	43.78
SD	4.14	15.31	3.50	8.42	4.46	5.17	4.24
α	.60	.95	.56	.91	.73	.70	.69

Note: *M* = mean; *SD* = standard deviation; α = Cronbach's Alpha; CESD = The Center for Epidemiologic Studies Depression Scale; STAI = State-Trait Anxiety Scale; AGREE = Agreeableness; CONSC = Conscientiousness; EXTRO = Extroversion; NEURO = Neuroticism; OPEN = Openness.

Table 6

Correlations between mothers' psychological factors and observed cocaring behavior.

Observed	CESD	STAI	AGREE	CONSC	EXTRO	NEURO	OPEN	**SUPPORT**	**UNDERMINING**
CESD	1								
STAI	r = .69** p = .003	1							
AGREE	r = -.31 p = .25	r = -.26 p = .34	1						
CONSC	r = -.21 p = .44	r = -.25 p = .36	r = .57* p = .021	1					
EXTRO	r = -.18 p = .52	r = -.10 p = .73	r = .30 p = .25	r = .55* p = .027	1				
NEURO	r = .60* p = .01	r = .72** p = .002	r = -.27 p = .31	r = -.25 p = .36	r = -.30 p = .26	1			
OPEN	r = .22 p = .42	r = .36 p = .17	r = .44 p = .09	r = .24 p = .38	r = .32 p = .22	r = .24 p = .37	1		
SUPPORT	r = -.14 p = .60	r = .39 p = .12	r = .02 p = .95	r = -.18 p = .52	r = -.40 p = .12	r = .17 p = .53	r = -.16 p = .55	1	
UNDERMINING	r = .02 p = .95	r = -.29 p = .26	r = 0.50 p = .86	r = .25 p = .35	r = .36 p = .17	r = -.38 p = .15	r = .20 p = .45	r = -.75** p = .000	1

Note: r = Pearson's Correlation; p = ** = $p < .01$; * = $p < .05$; CESD = The Center for Epidemiologic Studies Depression Scale; STAI = State-Trait Anxiety Scale; AGREE = Agreeableness; CONSC = Conscientiousness; EXTRO = Extroversion; NEURO = Neuroticism; OPEN = Openness.

Table 7

Correlations between teachers' psychological factors and observed cocaring behavior.

Observed	CESD	STAI	AGREE	CONSC	EXTRO	NEURO	OPEN	**SUPPORT**	**UNDERMINING**
CESD	1								
STAI	r = .33 p = .19	1							
AGREE	r = -.44 p = .07	r =-.81 p = .47	1						
CONSC	r = -.22 p = .39	r = .49* p = .04	r = .16 p = .52	1					
EXTRO	r = .08 p = .75	r = .22 p = .38	r = .13 p = .62	r = .09 p = .72	1				
NEURO	r = .73** p = .001	r = .31 p = .22	r = .58* p = .01	r = -.01 p = .99	r = -.02 p = .93	1			
OPEN	r = .27 p = .28	r = -.13 p = .61	r = .19 p = .45	r = -.43 p = .08	r = .25 p = .32	r = -.10 p = .69	1		
SUPPORT	r = .30 p = .22	r = -.04 p = .89	r = .26 p = .29	r = .06 p = .83	r = -.04 p = .88	r = .25 p = .32	r = .03 p = .91	1	
UNDERMINING	r = -.37 p = .13	r = .06 p = .81	r = -.09 p = .72	r = .19 p = .45	r = -.07 p = .78	r = -.20 p = .43	r = -.25 p = .33	r = -.75** p = .000	1

Note: r = Pearson's Correlation; p = ** = $p < .01$; * = $p < .05$; CESD = The Center for Epidemiologic Studies Depression Scale; STAI = State-Trait Anxiety Scale; AGREE = Agreeableness; CONSC = Conscientiousness; EXTRO = Extroversion; NEURO = Neuroticism; OPEN = Openness.